Remarks

This is in response to the Office Action dated September 14, 2009. In view of the above amendments and the following remarks, reconsideration of the rejection and further examination are requested.

Rejections under 35 U.S.C §103(a):

Claims 3-7, 9-12, 14, 16-22, and 32-41 have been rejected under 35 U.S.C §103(a) as being unpatentable over Hoffberg (US 6,400,996) in view of Han (US Pub. 2003/0028531) and further in view of Leshem (US 5,870,559). This rejection is submitted to be inapplicable to the claims, as amended, for the following reasons.

Claim 32 recites, in part, that the episode analysis unit (i) creates new episodes by extracting subtrees having, as new roots, nodes which are offspring of a node equivalent to a root of the frequent pattern tree, tracking nodes within each of the extracted subtrees starting from the root, and combining element data stored in the nodes, (ii) recursively performs the subtree extraction and the episode creation on the created episodes until there are no more subtrees, and (iii) reconstructs the frequent pattern tree by integrating recursively constructed subtree frequent pattern trees, into positions in the frequent pattern tree, and that the control unit controls, in association with each other, devices corresponding to nodes separated from each other by a predetermined number of nodes in the reconstructed frequent pattern tree, the devices being controlled as associated devices. The above features, as recited in claim 32, allow associated devices to be identified and linked with each other using a reconstructed frequent pattern tree. For example, when an alarm clock and a radio are not directly associated with each other, even though the association between the alarm clock and the radio is higher than the association between the alarm clock and a light, the relationship between the alarm clock and the radio can be set appropriately by reconstructing the pattern tree so that the alarm clock and the radio are directly associated with each other (as shown in the present application by the reconstruction of the pattern tree of the alarm clock, light, and radio in Figure 21 to that shown in Figure 25). This allows devices to operate in linkage with each other even when, for example, there is a limitation that only devices directly associated with the alarm clock are to be controlled in linkage with

each other. The combination of Hoffberg, Han, and Leshem fails to disclose the above features, as recited in claim 32.

Hoffberg, Han, and Leshem are discussed in detail in the amendments of September 17, 2008 and November 30, 2009. The Examiner asserts that all the elements of claim 32 are disclosed by the combination of Hoffberg, Han, and Leshem. However, Hoffberg, Han, and Leshem do not disclose or suggest the technique of linking devices up to a prescribed node using a reconstructed pattern tree, as recited in claim 32 above. Therefore, Hoffberg, Han, and Leshem do not disclose that the episode analysis unit (i) creates new episodes by extracting subtrees having, as new roots, nodes which are offspring of a node equivalent to a root of the frequent pattern tree, tracking nodes within each of the extracted subtrees starting from the root, and combining element data stored in the nodes, (ii) recursively performs the subtree extraction and the episode creation on the created episodes until there are no more subtrees, and (iii) reconstructs the frequent pattern tree by integrating recursively constructed subtree frequent pattern trees, into positions in the frequent pattern tree, and that the control unit controls, in association with each other, devices corresponding to nodes separated from each other by a predetermined number of nodes in the reconstructed frequent pattern tree, the devices being controlled as associated devices, as recited in claim 32.

Accordingly, no combination of Hoffberg, Han, and Leshem would result in, or otherwise render obvious under 35 U.S.C. §103(a), the features recited in claim 32. As a result, claim 32 is patentable over the combination of Hoffberg, Han, and Leshem.

Claims 35, 36, 39, and 40 are patentable over the combination of Hoffberg, Han, and Leshem for the same reasons as those discussed above with regard to independent claim 32. Specifically, claims 35, 36, 39, and 40 recite that the episode analysis unit (i) creates new episodes by extracting subtrees having, as new roots, nodes which are offspring of a node equivalent to a root of the frequent pattern tree, tracking nodes within each of the extracted subtrees starting from the root, and combining element data stored in the nodes, (ii) recursively performs the subtree extraction and the episode creation on the created episodes until there are no more subtrees, and (iii) reconstructs the frequent pattern tree by integrating recursively constructed subtree frequent pattern trees, into positions in the frequent pattern tree, and that the control unit controls, in association with each other, devices corresponding to nodes separated from each other by a predetermined number of nodes in the reconstructed frequent pattern tree,

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the devices being controlled as associated devices. Since the above features of claims 35, 36, 39, and 40 are not disclosed or suggested by the combination of Hoffberg, Han, and Leshem, claims 35, 36, 39, and 40 are patentable over the combination of Hoffberg, Han, and Leshem.

Claims 33, 34, 37, and 38 are patentable over the combination of Hoffberg, Han, and Leshem for reasons similar to those discussed above with regard to independent claim 32. Specifically, claims 33, 34, 37, and 38 recite creating new episodes by extracting subtrees having, as new roots, nodes which are offspring of a node equivalent to a root of the frequent pattern tree, tracking nodes within each of the extracted subtrees starting from the root, and combining element data stored in the nodes, performing, recursively, the subtree extraction and said creating new episode operation on the created new episodes until there are no more subtrees, and reconstructing the frequent pattern tree by integrating recursively constructed subtree frequent pattern trees, into positions in the frequent pattern tree, and controlling, in association with each other, devices corresponding to nodes separated from each other by a predetermined number of nodes in the reconstructed frequent pattern tree, the devices being controlled as associated devices. Since the above features of claims 33, 34, 37, and 38 are not disclosed or suggested by the combination of Hoffberg, Han, and Leshem, claims 33, 34, 37, and 38 are patentable over the combination of Hoffberg, Han, and Leshem.

Claims 3-7, 9-22, and 41 are either directly or indirectly dependent on independent claim 32. Therefore, claims 3-7, 9-22, and 32-41 are allowable over the combination of Hoffberg, Han, and Leshem.

Because of the above-mentioned distinctions, it is believed clear that claims 3-7, 9-22, and 32-41 are allowable over the references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of the invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 3-7, 9-22, and 32-41. Therefore, it is submitted that claims 3-7, 9-22, and 32-41 are clearly allowable over the prior art of record.

In view of the above remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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